

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027418**Date Inspected:** 06-Apr-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1300**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base 9 meter North diaphragm, this QA randomly observed ABF welder Jin Pei Wang continuing to perform 4F (overhead position) Shielded Metal Arc Welding (SMAW) fillet welding the 45mm thick stiffener plate shop marked piece number 439-1 around one foot below the drop in plate ND1-A52. The stiffener is being welded on three sides namely; tower skin plate 'E', North shear plate and vertical stiffener plate. The welder was noted using 3.2mm diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 130 amperes on the 3.2mm diameter electrode. At the end of the shift, the bottom 8mm fillet welding of the stiffener was still continuing and should continue Monday.

At Tower Base 9 meter north external diaphragm, this QA Inspector randomly observed ABF personnel Wai Kitlai continuing to perform 4F (overhead position) fillet production welding on the 45mm stiffener plate shop plate marked 439-2. The stiffener is being fillet welded to the 60mm thick vertical stiffener plate on one side, to the 60mm thick shear plate on the other side and 60mm thick tower skin plate. The welder was noted using the Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode and implementing Caltrans

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approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch with measured temperature of more than 150°F prior/during welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed working current of 135 amperes on the 3.2mm electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. At the end of the shift, the bottom 8mm fillet welding of the stiffener was still continuing and should continue tomorrow.

At Tower Base 13 meter inner East external diaphragm, this QA Inspector randomly observed ABF personnel Xiao Jian Wan continuing to perform 4F (overhead position) fillet production welding on the perimeter C10 channel to 45mm thick diaphragm plate fillet weld joint W133-2. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 120 amperes on the 3.2mm diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, SMAW fillet welding was completed.

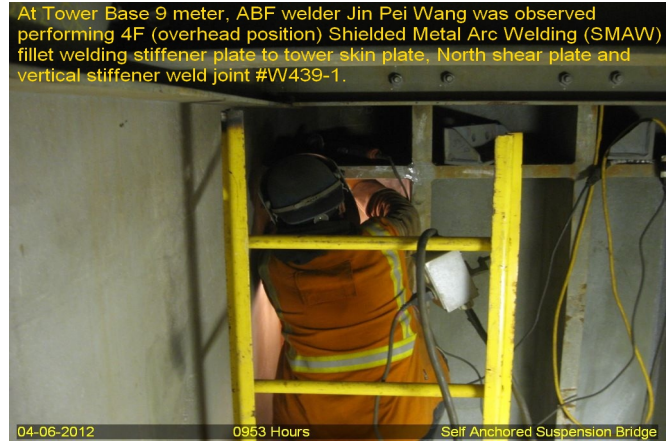
At Tower Base 13 meter inner East external diaphragm, this QA Inspector randomly observed ABF personnel Luo Xiao Hua continuing to perform 4F (overhead position) fillet production welding on the perimeter C10 channel to 45mm thick diaphragm plate fillet weld joint W132-2. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 128 amperes on the 3.2 diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, SMAW fillet welding was completed.

At Tower Base 9 meter center diaphragm, ABF personnel were observed continuing to perform fit up/tack welding on various penetration doubler plates above the 9 meter diaphragm. The welder was noted using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode during tack welding with 150°F preheat prior welding. At the end of the shift, fit up and tack welding penetration doubler plates were still continuing and should remain Monday.

At Tower Base 13 meter diaphragm, Submerged Arc Welding (SAW) of the diaphragm to shear/tower skin plates was noted idle. ABF personnel were noted housekeeping the area and when this QA talked to James Zhen, the welding foreman informed this QA that due to shortened shift today the welder will not be doing any SAW welding.

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Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer